

CLAIM AMENDMENTS

1–30. (canceled)

1 31. (previously presented) A chamber liner apparatus for covering a portion of a cylindrical side
2 wall of a plasma chamber, comprising:

3 a cylindrical liner having cylindrical inner and outer surfaces;
4 wherein the liner includes an aperture extending between said inner and outer surfaces;
5 wherein the outer surface of the liner includes a recess contiguous with the aperture; and
6 wherein the recess does not extend through the liner to the inner surface of the liner.

1 32. (previously presented) Apparatus according to claim 31, wherein:

2 the aperture and the recess are each characterized by a respective circumferential width
3 dimension along the circumference of the liner; and
4 the recess has a circumferential width equal to or greater than the circumferential width of
5 the aperture.

1 33. (previously presented) Apparatus according to claim 31, wherein the recess extends from the
2 aperture to one end of the cylindrical liner.

1 34. (previously presented) Apparatus according to claim 31, wherein:

2 the recess extends from the aperture to one end of the cylindrical liner;
3 the aperture and the recess are each characterized by a respective circumferential width
4 dimension along the circumference of the liner; and
5 the recess has a circumferential width equal to or greater than the circumferential width of
6 the aperture.

1 35. (previously presented) Apparatus according to claim 31, wherein:
2 the cylindrical liner is characterized by a longitudinal axis;
3 the aperture has an axial height dimension parallel to said longitudinal axis and a
4 circumferential width dimension along the circumference of the liner; and
5 the circumferential width of the aperture is much larger than the axial height of the aperture.

1 36. (previously presented) Apparatus according to claim 31, further comprising:
2 an arcuate door having a radially inner surface dimensioned so as to permit the radially inner
3 surface of the door to move between a first position at which the radially inner surface of the door
4 covers the aperture and a second position at which the entire radially inner surface of the door is
5 within the recess.

1 37. (previously presented) Apparatus according to claim 31, wherein:
2 the cylindrical liner is characterized by first and second ends and a longitudinal axis;
3 the aperture has first and second opposite sides respectively facing the first and second ends
4 of the liner;
5 the recess includes first and second portions respectively adjacent to the first and second
6 sides of the aperture;
7 the radially outer surface of the first portion of the recess is beveled so that its radial distance
8 from the longitudinal axis of the liner decreases progressively from adjacent the aperture toward the
9 first end of the liner; and
10 the radially outer surface of the second portion of the recess is beveled so that its radial
11 distance from the longitudinal axis of the liner increases progressively from adjacent the aperture
12 toward the second end of the liner.

1 38. (previously presented) Apparatus according to claim 37, wherein:
2 the first portion of the recess has a minimum radial distance from the longitudinal axis of the
3 liner that is substantially less than the maximum radial distance of the second portion of the recess
4 from the longitudinal axis of the liner.

1 39. (previously presented) Apparatus according to claim 37, further comprising:

2 an arcuate door having a radially inner surface extending between a first end and a second

3 end of the door;

4 wherein the radially inner surface of the door adjacent the first end is beveled so as to be

5 congruent with the radially outer surface of the first portion of the recess; and

6 wherein the radially inner surface of the door adjacent the second end is beveled so as to be

7 congruent with the radially outer surface of the second portion of the recess.

1 40. (previously presented) A chamber liner apparatus for covering a portion of a cylindrical side

2 wall of a plasma chamber, comprising:

3 a cylindrical liner characterized by first and second ends, a longitudinal axis, a radially inner

4 surface, and a radially outer surface;

5 wherein the liner includes an aperture extending between the radially inner and outer surfaces

6 of the liner, the aperture having first and second opposite sides respectively facing the first and

7 second ends of the liner, and the liner having first and second portions respectively adjacent to the

8 first and second sides of the aperture;

9 wherein the radially outer surface of the first portion of the liner is beveled so that its radial

10 distance from the longitudinal axis of the liner decreases progressively from adjacent the aperture

11 toward the first end of the liner; and

12 the radially outer surface of the second portion of the liner is beveled so that its radial

13 distance from the longitudinal axis of the liner increases progressively from adjacent the aperture

14 toward the second end of the liner.

1 41. (currently amended) Apparatus according to claim 40, wherein:

2 the radially outer surface of the first portion of the liner has a minimum radial distance from

3 the longitudinal axis of the liner that is substantially less than the maximum radial distance ~~of the~~ ~~of~~

4 the radially outer surface of the second portion of the liner from the longitudinal axis of the liner.

1 42. (previously presented) Apparatus according to claim 40, further comprising:

2 an arcuate door having a radially inner surface extending between a first end and a second

3 end;

4 wherein the first end of the radially inner surface of the door is beveled so as to be congruent
5 with the radially outer surface of the first portion of the liner; and

6 wherein the second end of the radially inner surface of the door is beveled so as to be
7 congruent with the radially outer surface of the second portion of the liner.

1 43. (currently amended) A slit valve door for a plasma chamber, comprising:

2 an arcuate door having a radially inner surface extending between a first end and a second
3 end of the door;

4 wherein the radially inner surface of the door adjacent the first end is beveled so that the
5 radially innermost portion of said radially inner surface is ~~at adjacent~~ the first end of the door; and

6 wherein the radially inner surface of the door adjacent the second end is beveled so that the
7 radially outermost portion of said radially inner surface is ~~at adjacent~~ the second end of the door.

1 44. (new) A slit valve door for a plasma chamber, comprising:

2 an arcuate door having a radially inner surface extending between a first end and a second
3 end of the door, wherein the first end and the second end are at opposite ends of the longitudinal axis
4 of the door;

5 wherein the radially inner surface of the door includes a first portion adjacent said first end
6 that is beveled so that said first portion of the inner surface includes the radially innermost portion of
7 said inner surface; and

8 wherein the radially inner surface of the door includes a second portion adjacent said second
9 end that is beveled so that said second portion of the inner surface includes the radially outermost
10 portion of said inner surface.

1 45. (new) Apparatus according to claim 31, wherein:

2 the cylindrical liner is characterized by a longitudinal axis;

3 the cylindrical liner comprises first and second ends at opposite ends of the longitudinal axis
4 of the cylindrical liner;

5 the aperture has first and second opposite sides respectively facing the first and second ends
6 of the cylindrical liner; and

7 the recess includes first and second portions respectively contiguous with the first and second
8 sides of the aperture.

1 46. (new) Apparatus according to claim 31, wherein:

2 the cylindrical liner is characterized by a longitudinal axis;

3 the cylindrical liner comprises first and second ends at opposite ends of the longitudinal axis
4 of the cylindrical liner;

5 the aperture has first and second opposite sides respectively facing the first and second ends
6 of the cylindrical liner; and

7 the recess is contiguous with the entire first side of the aperture.

1 47. (new) Apparatus according to claim 46, wherein:

2 the recess extends from the first side of the aperture to the first end of the cylindrical liner.

1 48. (new) Apparatus according to claim 46, wherein:

2 the aperture and the recess are respectively characterized by a respective circumferential
3 width dimension along the circumference of the liner; and

4 the recess has a circumferential width equal to or greater than the circumferential width of
5 the aperture.